

Notes on and Descriptions of *Aphelia*, *Clepsis* and *Choristoneura* Species (Lepidoptera: Tortricidae)

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Abstract: Six species of Palearctic *Aphelia* are redescribed. The following new species are proposed: *Aphelia galilaeica*, *A. ineffecta*, *Choristoneura ferrugininotata*, *Clepsis vittata*, *C. effigies*. Two new combinations in *Choristoneura* are given.

Aphelia accuratana (Kennel)

Figs. 1-2, 15-18

Tortrix praeclarana (non Kennel, 1899), Kennel, 1919, p. 93.

Djakonovia scutellana Obratzsov, 1943, p. 73, fig. 1. Syn. nov.

Aphelia (*Djakonovia*) *scutellana*: Obratzsov, 1955, p. 212; 1957, p. 314.

Tortrix continentana Rebel, 1916, p. 189. Syn. nov.

Tortrix continentana iliensis Rebel, 1916, p. 190. Syn. nov.

Aphelia (*Djakonovia*) *continentana*: Obratzsov, 1955, vol. 98, p. 212.

Aphelia (*Djakonovia*) *continentana* ssp. *iliensis*: Obratzsov, 1955, p. 212.

Tortrix accuratana Kennel: 1901, p. 224; 1910, p. 181, pl. 9, fig. 35.

Aphelia (*Djakonovia*?) *accuratana*: Obratzsov, 1955, p. 212; 1957, p. 314.

Epichorista accuratana: Caradja, 1927, p. 419.

Holotype of *accuratana*: ♂ (slide B.3), Uliassuta, Mongolei, D. 94. Berlin Museum.

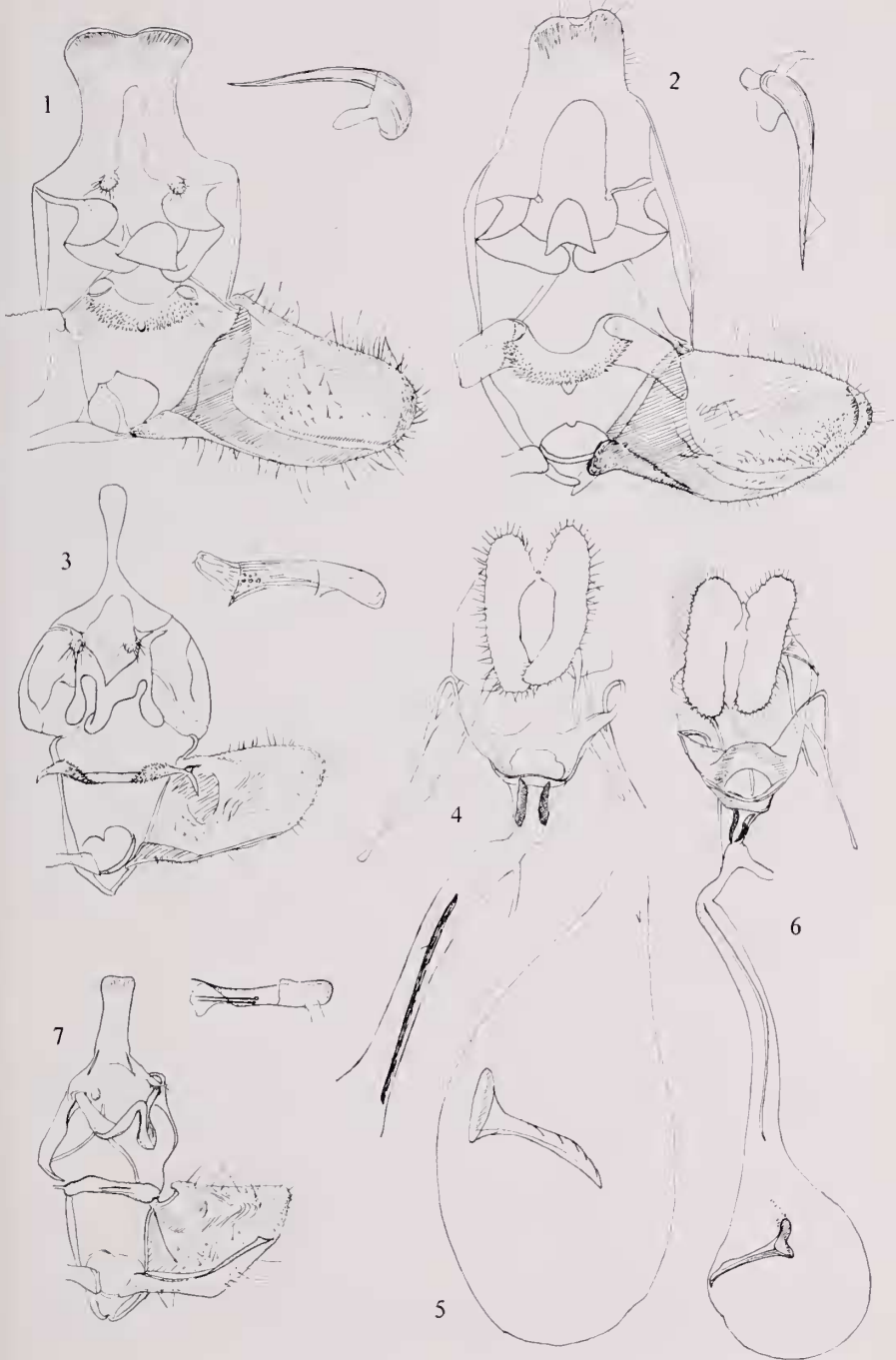
Holotype of *iliensis*: ♂ (slide V.1), Asia centr., Ili-Gebiet, Umg. Djarkent, Coll. Wagner. Vienna Museum.

Holotype of *scutellana*: ♂ Of *continentana*: Tannuola, Schawyr, 2500 m, 1914 (Bang-haas). Vienna Museum.

Antenna serrate, pale ferruginous-ochreous; bifasciculate, ciliation 1/1. Labial palpus, head and thorax concolorous. Forewing ochreous, with or without a slightly ferruginous tinge; markings dull gray-ferruginous-brown: an oblique, undulate line, inclined dorso-externad and separating about basal third of forewing; an incomplete, slightly undulate band, start-

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FIGS. 1-7. Genitalia of *Aphelia*. 1. *A. accuratana* (Kennel), male, type, left, aedeagus. 2. *A. continentana iliensis* (Rebel), male, type, left, aedeagus. 3. *A. stigmatana* (Eversmann), male, type, left, aedeagus. 4. The same species, female. 5. The same specimen, bursa copulatrix. 6. *A. imperfectana* (Led.), female, type. 7. The same, holotype, male.



ing at about middle of costa, directed toward, crossing end portion of discoidal, and somewhat dilated between veins R_4 and Cu_2 ; a pretornal spot at dorsum, forming a separated continuation of above mentioned band; a preapical costal spot, tapering apicad, and sometimes including three darker dots; a fine transverse strigulation, especially distinct basally and externally, but not always present; cilia almost concolorous with ground color of wing. Length of forewing: 13–14 mm. Hindwing pale grayish-creamy, slightly more gray dorsobasad; cilia concolorous or slightly paler than ground color, with a faint whitish basal line.

The species is variable and has been described under three different names. The form from Ili province, without a transverse strigulation in the forewings, may probably be separated as a subspecies; but the studied material is not sufficient for this.

Aphelia plagijerana (Rebel)

Antenna brown-ochreous, serrate; bipectinate, ciliation slightly over 1:1. Labial palpus brown on the outside, pale yellow internally. Thorax brown, paler anteriorly; tegulae brown with pale yellow tips. Forewing straw-yellow, finely outlined with brownish-ferruginous along costa, this edge slightly dilated on middle of costa and before apex, thus forming two indistinct costal spots; a large, brown, rotundate spot ventrotornad from end of cell and touching it; cilia concolorous with ground color. Length of forewing 12–13.5 mm. Hindwing pale gray, costa darker; cilia whitish.

The two specimens available are in bad condition. The lectotype consists of the pinned fore part of thorax with head, one fore leg, one middle leg and four wings partly glued together and to the thorax. The lectoparatype consists of four wings joined to a fragment of thorax and a separate head (without antennae and one labial palpus), joined to a piece of thorax with one fore leg. All these parts are pasted to a piece of pinned paper. The lectotype is partly discolored; the forewings of the lectoparatype are better preserved.

Lectotype: ♂, Ost Tannuola, Schawyz, 2500 m, 1914 (Bang-Haas). Vienna Mus.

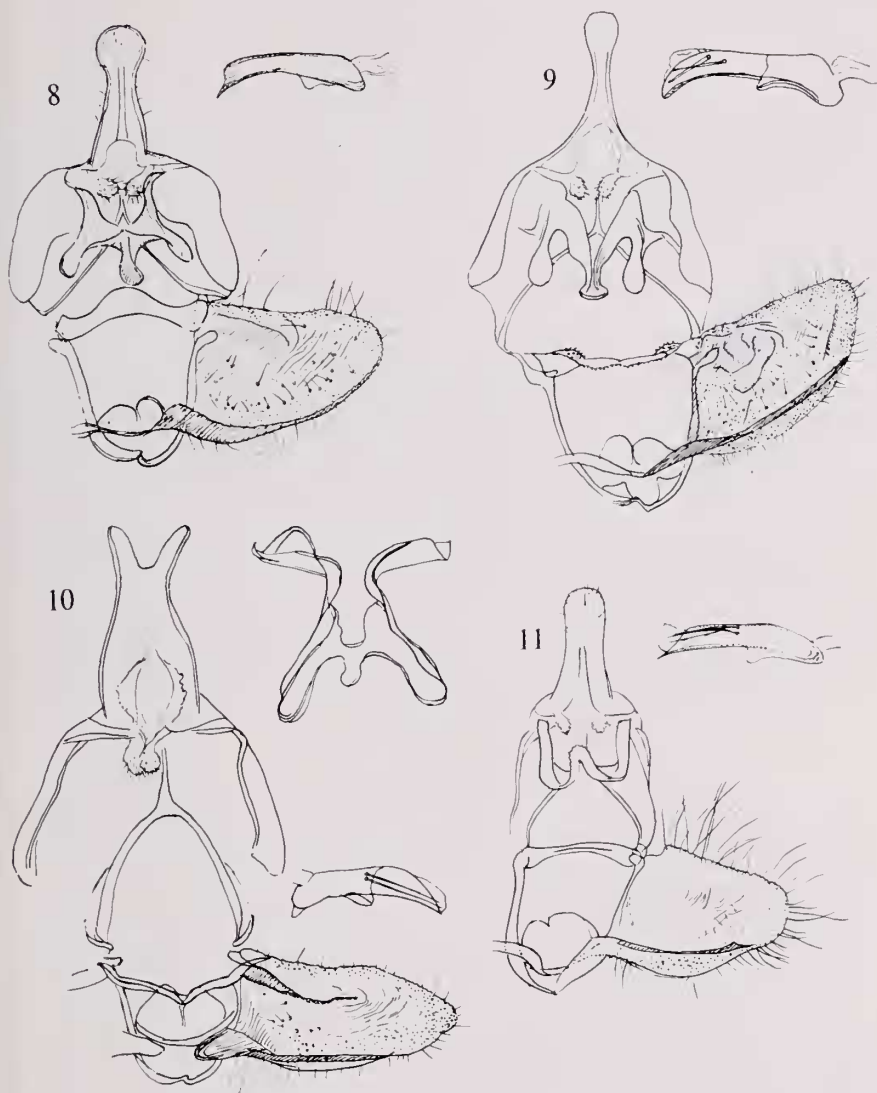
Lectoparatype: ♂, same data.

Aphelia phaeana (Rebel)

Fig. 21

Antenna blackish-brown, bipectinate, ciliation slightly over 1. Head and thorax concolorous. Forewing dark gray, with a yellowish silky reflection; cilia slightly paler. Length of forewing: 11 mm. Hindwing concolorous with forewing, but without reflection; cilia paler, with a gray basal line, paler than in the forewing.

The holotype specimen is badly damaged, merely consisting of the four wings and fragments of head, thorax and one leg, all pasted on a piece of corroded paper. The general appearance of the specimen, and the few characters still available for examination speak in favor of attributing the species to *Aphelia*—until more material is found, there cannot be any certainty about the identity and the systematic position of *phaeana*.



FIGS. 8-11. Male genitalia of *Aphelia* and *Clepsis*. 8. *A. christophi* Obraztsov, type. 9. *A. galilaica*, new species, holotype. 10. *C. effigies*, new species, holotype. 11. *A. ineffecta*, new species, male, holotype.

Holotype: ♂, Ost Tannuola, Schawyz, 2500m, 1914 (Bang-Haas). Vienna Mus.

Aphelia stigmatana (Eversmann)

Figs. 3-5

Antenna yellow, with slight ferruginous annulation; in male serrate, with bifasciculate ciliation about 2; in female, simple, with ciliation appressed, under 1, and sparse setae 1. Labial palpus yellow-ferruginous, deeper colored apicad. Head as labial palpi; frons whitish. Tegulae and thorax yellow, becoming more ferruginous towards head. Forewing pale straw-yellow, tinged ferruginous at base of costa and sometimes with a similarly colored spot at the end of cell and in middle of costa; cilia whitish, with a pale grey, faint dividing line. Under side of forewing brown, outlined with yellow on costa, before apex, and along termen. Length of forewing: 12-13 mm. Hindwing pale gray; cilia white, tinged creamy at base.

MALE GENITALIA: Uncus spoon-like, with a narrow stalk and gradually dilated and rounded apically; socii short; gnathos with the median process broad and rounded. Valva moderately long, top broadly rounded, extreme margin slightly inclined, anal angle flatly rounded; sacculus narrow, dilated in anal portion only, reaching to anal angle of valva. Fultura superior rather narrow, spinulate laterally. Aedeagus smooth, slightly curved, with tip acute; many spine-like cornuti over $i/2$ (missing in examined slide, but found, as scars, on the vesica, and in the bursa copulatrix of the female).

FEMALE GENITALIA: Lamella antevaginalis stripe-like; lamella postvaginalis with a rounded-angular caudal projection. Antrum rather broad, conical, broader caudally; two large lateral colliculi. Cestum rather broad. Corpus bursae, elongate-ovate; signum with a curved, rather large hood, and an elongate base.

SPECIMENS EXAMINED: 1♂ and 1♀ (genitalia on slides 6811 and 6817, respectively), Guberli, ex Christoph Collection. British Museum.

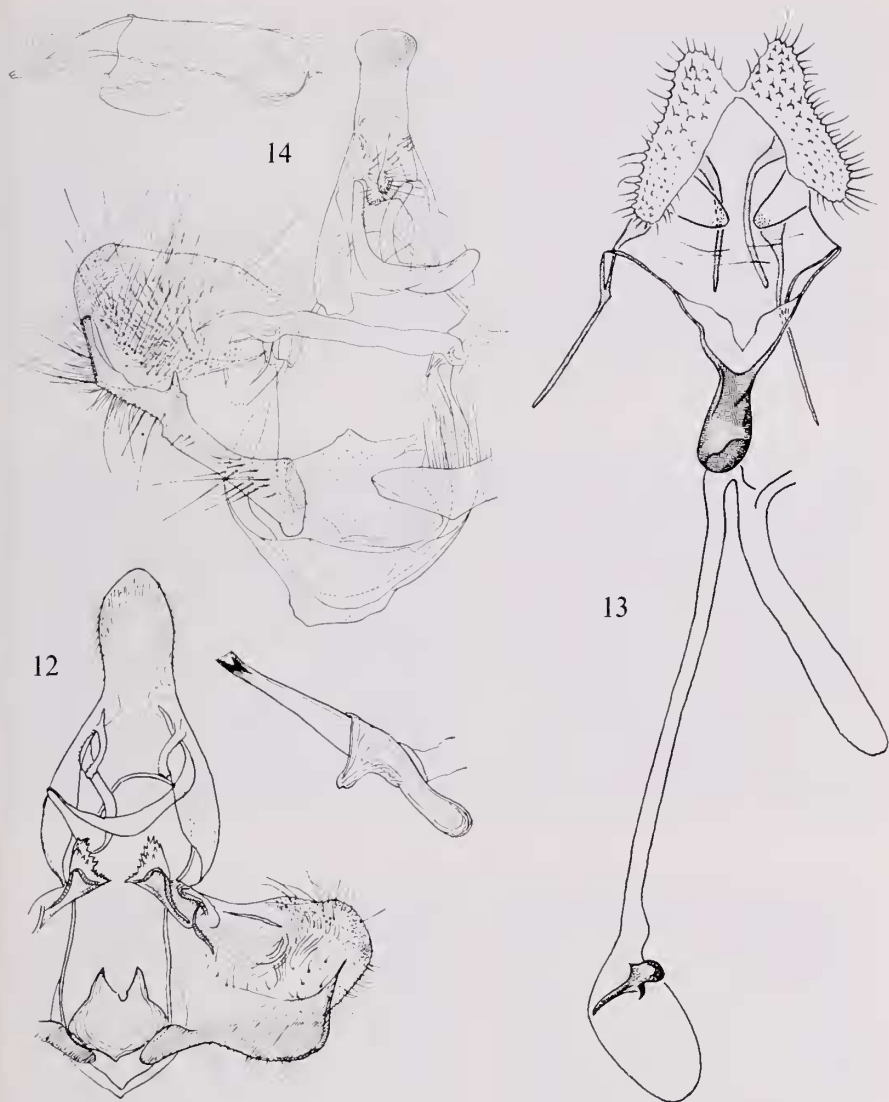
Aphelia galilaeica, new species

Figs. 9, 19

MALE: Antenna brownish-yellow, not ringed, underside brown; bifasciculate, ciliation slightly over 1. Labial palpus yellow, the outer side and terminal segment shaded with brown. Head, tegulae and thorax brown-ochreous, with a few occasional whitish scales. Forewing straw-yellow, somewhat more citron-yellow costad, brown at extreme base and slightly ferruginous in basal portion of cell; an oblique, rather broad brownish-ferruginous band running from middle of costa to dorsum just before tornus; its edge rather indistinct, somewhat serrate from inner side and slightly undulate on outer side; a concolorous costal spot in external third of forewing, starting with a darker oblique line, then gradually narrowed and ended shortly before apex of wing; cilia concolorous with ground color and mixed with some citron-yellow scales. Length of forewing 12 mm. Underside of forewing pale brown becoming yellow at costa and dorsum; faint brown spots on costa corresponding with dark markings of upper side. Hindwing greyish-white, suffused with pale greyish-brown. Cilia whitish.

FEMALE: Unknown.

MALE GENITALIA: Uncus spoon-like, with a moderately thick stalk and a rounded apical part; socii short; gnathos with a dilated and rounded median process. Valva moderately long, with a straight costa, a slightly inclined outer margin, and an arcuate rather broad sacculus with a longitudinal marginal rod, extending from the extreme base to the outer



FIGS. 12-14. Genitalia of *Aphelia vittata*, new species. 12. Holotype, male. 13. Allotype, female. 14. Genitalia of *Choristoneura ferruginotata*, new species, holotype, male.

margin of valva. Fultura superior rather narrow, ends acute, spinulate along its entire length. Aedeagus smooth, slightly down-curved and subacute; cornuti, two spines, less than $1/3$.

Holotype. ♂ (slide 6807), Galilee, IV.1886 (Pratt; Leach 60036). British Museum.

Differs from the related species by the distinct oblique brown band of the forewings. The male genitalia are close to those in *stigmatana*, but differ by the shape of valva, the presence of a rod of the sacculus which is remote from the ventral edge of the valva, the more abruptly rotundate top of the uncus, the fultura superior being serrate in the middle, and a less acute top of the aedeagus.

Aphelia ineffecta, new species

Figs. 11, 20

MALE: Antenna ochreous with irregular, brownish-ferruginous annulation; serrate; ciliation bifasciculate, slightly longer than 1. Labial palpus brownish-ochreous; terminal segment darker. Head and thorax brownish-ochreous, slightly paler than labial palpus. Forewing straw-yellow; base of costa brown; an indistinct, ferruginous streak from inside of discal cell before its end to tornus; a concolorous streak between veins R_2 and R_3 ; cilia pale yellow with a straw-yellow dividing line; under surface of forewing brownish-gray, along margins yellow. Length of forewing: 11 mm. Hindwing grayish-white; terminal line darker; cilia white with a gray basal line.

FEMALE: Unknown.

MALE GENITALIA: Uncus spatulate, rounded at tip; socii short; gnathos with middle process obtusely pointed. Valva rotundate-subtriangular; sacculus rather broad, convex at middle, before end with an angulate fold elevated over surface of valva. Fultura superior bar-shaped, slightly curved. Aedeagus smooth, with an acute tip.

Holotype. Male (genitalia on slide 6810), Bescharré, North Lebanon, 1400 m, May 3-10, 1931 (H. Zerny). British Museum.

REMARKS: Similar to *imperfectana* Lederer, and externally not distinguishable from it. Differs in having the tip of the uncus rotundate, the fultura superior narrower and slightly curved, the sacculus of the valva shorter, the external margin of the valva more rotundate, and the acute point of the aedeagus shorter.

Aphelia imperfectana (Lederer)

Figs. 6-7

MALE GENITALIA: Uncus spatulate, almost equally broad, with a straight trimmed apex; socii rather short; gnathos with a moderately acute tip. Valva irregularly subtrapezoidal; sacculus rather broad, rotundate, bent, almost reaching external margin of valva, and ending with a tip angularly projected over surface of valva. Fultura superior shaped as a rather broad, at middle slightly narrower bar. Aedeagus smooth, acutely pointed.

FEMALE GENITALIA: Lamella antevaginalis narrow-subtrapezoidal, slightly incurved caudally and straight, lamella postvaginalis with a convex caudal margin. Antrum sub-cylindrical, rounded cephalad, colliculi shaped as two lateral strips. Cestum narrow, not reaching ostium ductus seminalis and cervix bursae. Corpus bursae rotundate; signum with a long, slightly curved hook and an elongate capitulum.

Holotype. Male (genitalia on slide B.5), Beirut, Lebanon; Zoological Museum of Humboldt University, Berlin.

OTHER SPECIMENS EXAMINED: One male (genitalia on slide V.2) and one female (genitalia on slide V.3), Bescharré, North Lebanon, June 3-20, 1931 (H. Zerny). Vienna Museum.



FIGS. 15-20. Adults. 15. *Aphelia accuratana* (Kennel), male, holotype. 16. *A. continentana* Rebel, male, holotype. 17. *A. continentana iliensis* Rebel, male, holotype. 18. The same specimen, head. 19. *A. galilaeica*, new species, male, holotype. 20. *A. ineffecta*, new species, male, holotype.

Aphelia christophi Obraztsov
(= *verbascana* Christoph)

Fig. 8

The original name of this species, *Tortrix verbascana* Christoph (1877), appeared to be homonymous with that of the dubious species *Tortrix verbascana* Schranck (1802), and Obraztsov (1955) proposed the new name *christophi*, consequently. Christoph described the species after a single specimen taken in Sharud, Persia. Therefore, the specimen from his collection, recently deposited in the British Museum and supposedly indicated as "Type," cannot be the holotype, its label reading "Tasch" and in all probability referring to Talysh.

The present author has received from the Zoological Museum of the Humboldt University, Berlin, Germany, a specimen originating from Sharud and identified as *Tortrix verbascana* Christoph. The locality label of this specimen, undoubtedly written by the same hand as most of the specimens in Christoph Collection, reads "Schahrud," but the determination is written in some other hand, and the evidence that this specimen is the holotype, is not complete. The fact that the mentioned specimen originates from the same locality as *verbascana* and is conspecific with this species, gives reason to select it hereby as neotype.

MALE GENITALIA: Uncus rather broad, narrowed before the orbicular tip; socii moderate, rather broad; gnathos with two elongate lateral processes rounded at tips, and a middle process with a slightly dilated rounded tip. Valva widely rotundate-lanceolate; sacculus rather narrow, without free tip. Fultura superior dilated in middle. Aedeagus without any sculpture of the surface.

Obraztsov (1955, 1956) treated *christophi* (= *verbascana*) as a subspecies of *Aphelia palcana* (Hübner), but the differences in the genitalia, especially in the middle process of the gnathos and the aedeagus, the shape of the forewing, and the long ciliation of the male antenna of *christophi* compel me to recognize *christophi* as a separate species.

Neotype, male (genitalia on slide B.4), "Schahrud." Berlin Museum.

OTHER SPECIMEN EXAMINED: Male (genitalia on slide 5310), "Tasch 31.5.71." Berlin Museum.

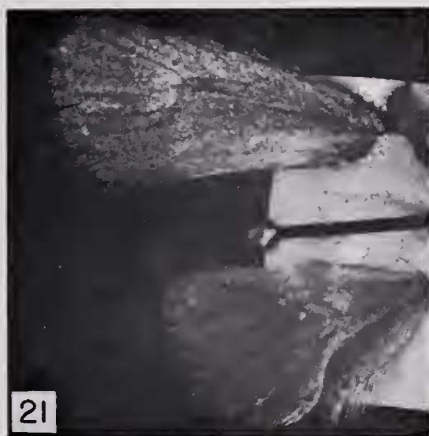
Choristoneura ferruginotata, new species

Figs. 14, 25

MALE: Antenna pale yellow, fasciculate-ciliated; ciliation about 2, in basal portion of antenna about 1. Undersurface of antenna, palpus, head, and thorax, pale yellow. Forewing without a costal fold, pale yellow, slightly sericeous, with a pale ferruginous suffusion in

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FIGS. 21-25. Adults. 21. *Aphelia phaeana* (Rebel), holotype. 22. *Clepsis effigies*, new species, male, holotype. 23. *C. vittata*, new species, male, holotype. 24. The same species, female, allotype. 25. *Choristoneura ferruginotata*, new species, male, holotype.



basal portion and a slight whitish suffusion at middle; an obliterate, ferruginous-ochreous, somewhat undulate band, more distinct and broader in its lower portion, crossing forewing from middle of costa and directed tornad; an obliterate, concolorous, preapical spot on costa; a minute, concolorous, hardly distinguishable dot between preapical spot and band; cilia cream-white, at base yellow. Length of forewing: 12 mm. Hindwing pale grayish cream-white; cilia paler.

FEMALE: Unknown.

MALE GENITALIA: Uncus spatulate, tip gently dilated and rounded. Socii short, slightly pending. Top of middle process of gnathos narrowly rounded. Valva weak, somewhat rotundate, stronger sclerotized in lower basal portion, occupying more than one-third of entire surface of valva; sacculus as long as ventral margin of valva, strongly sclerotized, finely dentate along ventral edge of apical portion, with a strong, dorsal thorn externad of middle, and with an acute tip not separated from surface of valva. Fultura superior, a complete, well sclerotized, straight bar connecting both valvae; fultura inferior trapezoidal, rotundate ventrally. Aedeagus moderately thickened, apically tapering and slightly undulate; sinus penis noticeably sclerotized around most of aedeagus, leaving only its tapering portion uncovered, and fused with a longitudinally prolonged caulis; apparently no cornuti.

Holotype, male (genitalia on slide No. 6808), Kukti, Northwestern Himalayas, 12,000 feet, 1892 (Leach, Walsingham Coll. No. 60516). British Museum. Closely related to *C. griseicoma* Meyrick and *C. neurophaea* Meyrick but differing in the presence of faint ferruginous-ochreous markings in the forewing, the dissimilar dentation of the sacculus, and in the shape of the aedeagus. Superficially it resembles *Aphelia imperfectana* (Lederer).

Clepsis vittata, new species

Figs. 12-13, 23-24

Antenna ferruginous-ochreous with yellow annulation, in male slightly serrate at base and tip, bifasciculate ciliation under 1; in female with sparse setae under 1 and short, appressed cilia. Labial palpus 2, brownish ferruginous-ochreous with terminal segment slightly darker. Head concolorous with labial palpus; thorax somewhat paler. Forewing yellow-ochreous with brownish ferruginous markings: an indistinct shadow in basal quarter; a rather broad, well defined fascia, narrow at costa (especially in female) and widened tornad, running from before middle of costa to dorsum slightly before tornus, and in female dark-outlined and with dark striation along veins; external margin of this fascia curved basad before tornus, and slightly serrate in dorsal portion; an oblique preapical streak, in female replaced by a short, narrow streak; some fine, vertical lines between basal shadow and fascia, and externad of latter; terminal line and base of cilia blackish brown; tips of cilia pale yellow. Under surface of forewing brownish ferruginous, in female paler and with indication of middle fascia. Length of forewing: 10 mm. Hindwing pale grayish ochreous; cilia whitish.

MALE GENITALIA: Uncus broad, lanceolate-spatulate; socii narrow, rather long; gnathos with middle process tapering, with a narrow and rotundate tip. Valva broadly subquadrate with a broad, rotundate-subrectangular cucullus; sacculus strong, widened externally, with external angle broadly rotundate; processus basalis strong and broad, ending with an acute lateral tip, and with a high, cucullate and spinulate dorsal portion. Fultura superior narrow, short, membranous; fultura inferior broad, subcordate with upper angles triangular. Aedeagus long, rather slender, widened at middle and gradually narrowed apicad; apex pointed, and accompanied by a dorsolateral spine; coecum penis elongate, connected to a slightly narrower portion of aedeagus; no cornuti detected. Sinus penis clinging to aedeagus; caulis moderately long, rather broad.

FEMALE GENITALIA: Antrum moderately broad, elongate-piriform; lamella postvaginalis deeply and acutely cut out at middle; ductus seminalis discharging directly into portion of ductus bursae covered by antrum; collum of cervix bursae long, without cestum; corpus bursae ovate, rather small; signum large with a narrow, insignificantly curved hook about twice as long as a large, bulbose capitulum.

TYPES: Holotype, male (genitalia on slide 6812), Sarepta; allotype, female (genitalia on slide 6815), Guberli. Christoph Collection, British Museum.

REMARKS: Similar to *praeclarana* Kennel and *fucosana* Kennel, but with the middle fascia of the forewing distinctly narrowed costad and not interrupted vertically. The basal shadow of the forewing is broader than in *praeclarana*. Although the types of the new species originate from two distinct localities, there are no doubts in their conspecificity.

Clepsis effigies, new species

Figs. 10, 22

MALE: Antenna pale yellow, fasciculate, ciliation about 1; under surface pale brownish-ferruginous. Labial palpus 2, brownish ochreous, paler on upper edge and under surface. Head ochreous, brownish between antennae. Thorax, patagia, and tegulae straw-yellow. Forewing straw-yellow with brownish markings as follows: an undulate, oblique externad streak from about basal sixth of costa to cubital vein, then turning basad, and halfway not reaching dorsum; a subquadrate spot at about middle of costa, continued as a separated, broad, oblique, slightly curved streak directed tornodorsad and not reaching dorsum; a rather large, elongate-triangular costal spot from about $\frac{2}{3}$ of costa to apex; a fine, obliterate line from base of this spot to middle of termen; base and apical portion of costa brownish; cilia straw-yellow at base, paler externad; under surface of forewing yellow, brownish at middle, and whitish at dorsum, with streaks and spots showing from upper surface. Length of forewing: 12 mm. Hindwing pale cream-white suffused with pale brownish-gray, especially along veins; cilia whitish with a pale brownish-yellow dividing line.

FEMALE: Unknown.

MALE GENITALIA: Uncus broad, dilated in basal portion, and ending with a fork; socii moderate, dilated apically; gnathos large with two long and broad lateral processes, and a much shorter middle process, all of them rotundate at tips. Valva elongate, somewhat narrowed and rotundate externally; sacculus rather narrow, tapering apicad; processus basalis subcostal, with interior portion narrow and fused with a curved, bar-shaped fultura superior. Aedeagus smooth, moderately pointed at tip.

Holotype, male (genitalia on slide 6806), Atskhur ("Azkur"), Georgia (Christoph Collection). BM.

REMARKS: Somewhat similar to some specimens of *Aphelia accuratana* (Kennel), but with purer straw-yellow forewing without strigulation, the basal streak turned basad and not reaching dorsum, and the middle fascia consisting of a costal spot and a separate, oblique streak. The male genitalia are rather unique in the genus *Clepsis* Hübner, especially because of a furcate uncus, a trilobate gnathos, and a well developed fultura superior. Perhaps requires a generic separation.

Choristoneura griseicoma (Meyrick), new combination

Tortrix griseicoma Meyrick, 1924, p. 115. Clarke, 1955, p. 150; 1958, p. 240, pl. 120, figs. 1-1b.

Clepsis griseicoma; Obraztsov, 1955, p. 218.

TYPE: Lectotype, male (genitalia on slide 6837, J.F.G.C.), Srinagar, Kashmir, 5200 feet, August 1923 (Fletcher). British Museum.

Choristoneura neurophaea (Meyrick), new combination

Tortrix neurophaea Meyrick, 1932, p. 341. Clarke, 1955, p. 216; 1958, p. 247, pl. 123, figs. 4-4b.

Clepsis neurophaea; Obraztsov, 1955, p. 218.

TYPE: Lectotype, male (genitalia on slide 6834, J.F.G.C.), Killanmarg, Kashmir, 10500 feet, July 1931 (T. B. Fletcher).

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